Montgomery County Farmers Market Meeting 2018

Chuck Schuster

cfs@umd.edu

Relevance to the Farm

- You can prevent and reduce risks on the farm
- You know your farm and practices better than anyone, but you may not know the consequences of your current practices on food safety risks
- Your actions directly impact food safety and the financial viability of your farm

The Food Safety Modernization Act (FSMA)

- FSMA includes:
  - **Produce Safety Rule**
  - Preventive Controls for Human Food
  - Preventive Controls for Animal Food
  - Foreign Supplier Verification Programs
  - Accreditation of Third-Party Auditors/Certification Bodies
  - Sanitary Transportation of Human and Animal Food
  - Prevention of Intentional Contamination/Adulteration
- Focused on prevention of food safety issues and encompasses the entire food system

FSMA Produce Safety Rule

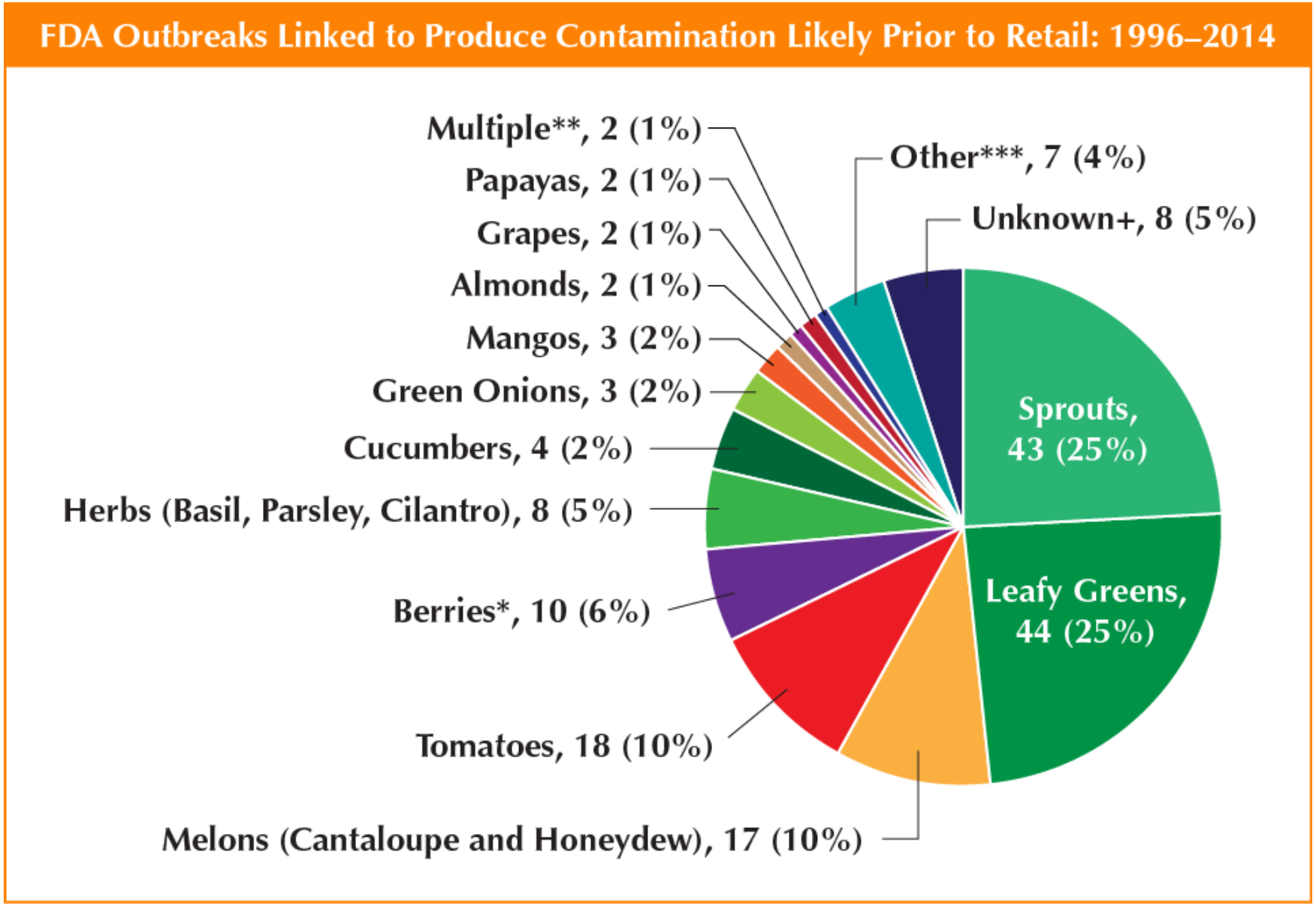
- First ever mandatory federal standard for growing, harvesting, packing, and holding of fresh produce
- Some growers may be eligible for an exemption or excluded based on:
  - Commodities grown (e.g., rarely consumed raw)
  - Processing activities that include a ‘kill step’
  - Average annual produce sales
  - Average annual food sales and sales to ‘qualified end users’
- Ultimately, all growers should understand and take action to reduce food safety risks on the farm

Produce Safety Rule Compliance

Business Size	Years to Comply After Effective Date (1-26-16)*
All other businesses (>$500K)	2
Small businesses (>$250K-500K)	3
Very small businesses (>$25K-250K)	4

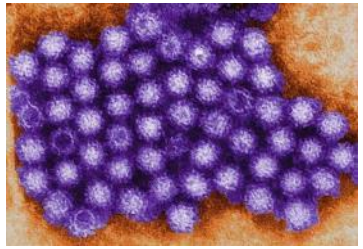
**Compliance dates for certain aspects of the agricultural water requirements allow an additional two years beyond each of these compliance dates.*

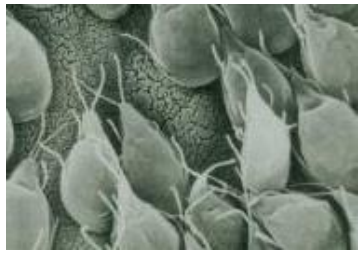
Outbreaks Associated with Produce



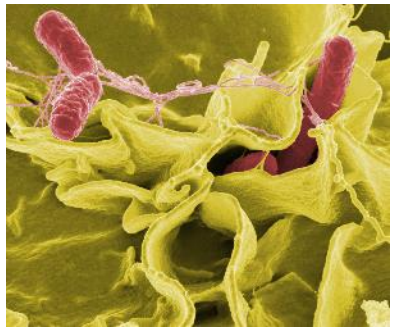
Microorganisms of Concern in Fresh Produce

- Bacteria
  - *Salmonella,* toxigenic *E. coli, Shigella, Listeria monocytogenes*
- Viruses
  - Norovirus, Hepatitis A
- Parasites
  - *Giardia lamblia*, *Cryptosporidium parvum, Cyclospora cayetanensis*



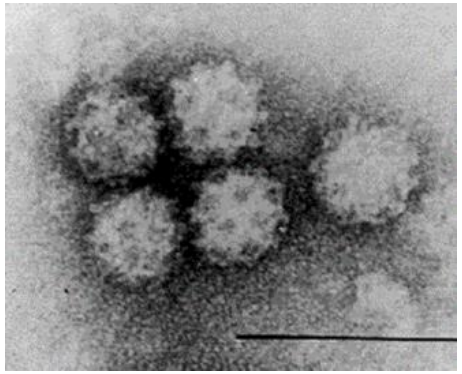


Bacteria in the Farm Environment



- Bacteria are microorganisms that can multiply both inside and outside of a host
- Bacteria include pathogens such as *E. coli* O157:H7, *Salmonella*, and *Listeria monocytogenes*
- Bacteria can multiply rapidly given the right conditions: water, food, and the proper temperature
- Good Agricultural Practices can reduce risks by minimizing situations that support bacterial survival and growth

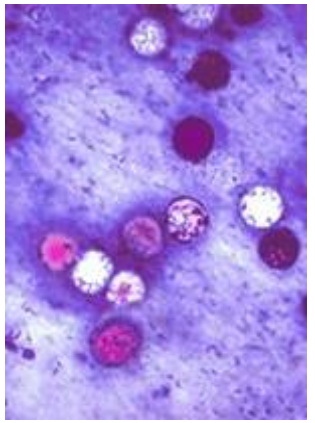
Viruses

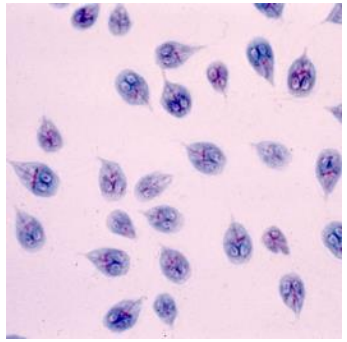


- **Viruses** are small particles that multiply only in a host, not in the environment or on produce
- Contamination most often linked to an ill worker handling fresh produce (fecal-oral route) or contaminated water
- It only takes a few virus particles to make someone ill
- Can be very stable in the environment
- Prevention is the key to reducing viral contamination
- Limited options for effective sanitizers

Parasites

- **Parasites** are protozoa or intestinal worms that can only multiply in a host animal or human
- Commonly transmitted by water
- Can be very stable in the environment; **often not killed by chemical sanitizers**
- Can survive in the body for long periods of time before ever causing signs of illness





Health Impacts by Pathogen Type

FDA Outbreaks Linked to Produce by Pathogen Types: 1996–2014				
Pathogen Type	Outbreaks (% of total)	Illnesses (% of total)	Hospitalizations (% of total)	Deaths
Bacterial	148 (85.55)	11,377 (66.28)	1,844 (89.21)	65
Parasitic	21 (12.14)	4,786 (27.88)	67 (3.24)	0
Viral	3 (1.73)	993 (5.79)	156 (7.55)	3
Total	173*	17,164	2,067	68

*The total also includes chemical hazards not identified in this table (e.g., a Curcurbitacin toxin outbreak associated with squash).

Produce Safety Challenges

- Fresh produce is often consumed raw (i.e., not cooked)
- Microbial contamination on produce is extremely difficult to remove once present
  - Natural openings, stem scars, bruises, cuts
  - Rough surfaces, folds, netting
- Contamination is often sporadic
- Bacteria can multiply on produce surfaces and in fruit wounds, provided the right conditions are present



Contamination Sources

Humans

Soil

Produce

Animals

Buildings
Equipment
Tools

Water

Cleaning vs. Sanitizing

What is the difference and why does it matter?

- **Cleaning:** Physical removal of dirt (soil) from surfaces which can include the use of clean water and detergent
- **Sanitizing:** Treatment of a cleaned surface to reduce or eliminate microorganisms

Important point: You cannot sanitize a dirty surface.

Cleaning always comes first!

Produce Safety Begins With Your Commitment

- Identifying produce safety risks on your farm
- Supporting the implementation of food safety policies and practices to reduce risks
- Providing equipment and facilities necessary to implement practices that reduce risks
- Supporting effective food safety training so everyone can actively be involved in reducing risks
- Setting a good and consistent example on your farm

A Farm Food Safety Plan

- Gets you thinking about YOUR farm and practices
- Keeps you organized so you can focus your time and resources more effectively
- Gives you a plan to follow and assure everyone is involved
- Documents your progress
- Is required by third part audits and some buyers
- Is not required by the FSMA Produce Safety Ru od idea!

Summary

- Produce safety impacts your farm
- Microorganisms are the primary produce safety concern
- Your commitment is critical to success
- Produce safety includes:
  - Assessing risks, implementing practices, monitoring practices, using corrective actions, and keeping records
  - Providing the necessary resources to get it done
- A written Farm Food Safety Plan guides your produce safety efforts